

Notice of Allowability

Application No.

10/808,347

Examiner

Jaworski Francis J.

Applicant(s)

KRANTZ ET AL.

Art Unit

3768

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Int. 12/12,amd12/18.
2. ☒ The allowed claim(s) is/are 1-26.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

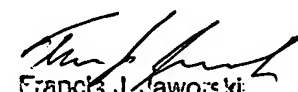
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 2-4-05
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 12/12/06
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


Francis J. Jaworski
Primary Examiner

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

Geiser et al (US5797396) uses elliptical filters to model an outline of the heart including the fetal heart for purposes of producing conventional volumetric indices from the outlines.

Weng Jr et al (US5588435) and Chalana et al (US5605155) are directed to the use of approximating functions on an ultrasound image in order to generate fetal measurement parameters.

Fan et al (US7022073) is directed to the use of gradient operations to define organ outlines.

Weiss et al (US5898797) related to the prior-cited Weiss et al patent does not teach use of functional coefficients as opposed to distribution of measured values as a biomarker, as argued by applicants in the April 20, 2006 amendment.

Spratt (5838592) produces fetal head circumference values as the length of an image- fitted curve.

Taylor (US6491632) is directed to photogrammetric monitoring using ultrasound-derived images.

Dewuele(6792071) is directed to e.g. bone measurements made on digitized radiographic images with reference to stored anatomic bone template depictions.

O'Donnell et al(6873718) is directed to the use of statistical shape modelling to determine cardiac-specific contours.

Johnson (US2003/0160786) pertains to automatic heart shape outline tracing in contrast to manual contour identification in fetal scans.

Littlefield et al (US7127101) is cited as of general interest in using MRI to correct infant cranial defects using cranial remodeling models.

Rottem (US6032678) is directed to comparative fetal image analyses to determine abnormalities.

Parker et al (US2004/0147830) is directed to image segmentation e.g. of the fetal head to produce a biomarker for tracking over time based upon measured values.

Krantz et al (US2005/074783) was considered for obvious-type double patenting issues however the claims are directed therein to the use of a measured value ratio as a fetal biomarker including a production of a likelihood ratio therefrom as opposed to the use of shape function coefficients.

Krantz et al (US2005/245825) is directed to claiming of statistical analysis of likelihoods based upon landmark points derived from a fetal image as opposed to a determination of coefficients of a shape function for the points.

The claims as amended were considered to define over fetal cell shape analysis and statistical coefficients associated with cell population results.

None of the prior art alone or in combination teaches or suggests a computer – implemented method or a processor having resident software therein for receiving coordinates identifying an anatomic shape of a human fetus together with determining mathematical function coefficients for the identified shape and thereafter using the

Art Unit: 3768

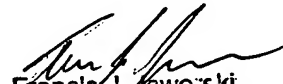
coefficients themselves not the measured shape or measured shape statistics per se as biomarker(s) of fetal abnormality..

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738.

FJJ:fjj

12-28-06


Francis J. Jaworski
Primary Examiner